WHAT IS CLAIMED IS:

1. A method for fabricating a brazeable diamond product, comprising:

(a) depositing a layer of chromium metal onto at least a portion of a diamond component;

(b) depositing onto at least a portion of the layer of chromium metal a layer of a refractory metal selected from the group consisting of tungsten, molybdenum, tantalum, niobium, a chromium alloy of said refractory metal, and mixtures thereof;

(c) depositing onto at least a portion of the layer of refractory metal a layer of a first metal selected from the group consisting of copper, silver, gold, and mixtures thereof; and

(d) depositing onto at least a portion of the layer of first metal a layer of a second metal selected from the group consisting of copper, silver, gold, and mixtures thereof, by contacting the first metal with the second metal at a temperature at or above the melting point of the second metal.

2. The method of claim 1, wherein the first and second metals are the same.

3. The method of claim 2, wherein the first and second metals are copper.

4. The method of claim 1, wherein the depositing of the layer of chromium metal comprises physical vapor deposition (PVD).

5. The method of claim 4, wherein the physical vapor deposition comprises sputtering.

6. The method of claim 1, wherein the depositing of the layer of refractory metal comprises physical vapor deposition.

7. The method of claim 6, wherein the physical vapor deposition comprises sputtering.

8. The method of claim 1, wherein the depositing of the layer of first metal comprises physical vapor deposition.

9. The method of claim 8, wherein the physical vapor deposition comprises sputtering.

10. The method of claim 1, wherein the depositing of the layer of second metal comprises applying a solid film, foil, or shim of the second metal to at least a portion of the surface of the first metal, and increasing the temperature of the

film, foil, or shim to a temperature at or above the melting temperature of the second metal for a time sufficient to melt at least a portion of the second metal.

11. The method of claim 10, wherein the film, foil, or shim of the second metal has a thickness of at least about 50 microns.

12. The method of claim 10, wherein the first metal and second metal are both copper, and wherein the solid film, foil, or shim is heated to a temperature of at least about 1100 °C in an inert or reducing atmosphere for a time sufficient to melt at least a portion of the solid film, foil, or shim.

13. A brazeable diamond product, comprising:

(a) a diamond component;

(b) a layer of chromium metal disposed on at least a portion of the surface of the diamond component;

(c) a layer of a refractory metal selected from the group consisting of tungsten, molybdenum, tantalum, niobium, a chromium alloy of said refractory metal, and mixtures thereof, disposed on the layer of chromium metal;

(d) a layer of one or more metals, selected from the group consisting of copper, silver, gold, and combinations or mixtures thereof, having a thickness of at least about 50,000 Å, disposed on the layer of refractory metal.

14. The product of claim 13, wherein the layer of chromium metal ranges in thickness from about 200 to about 10,000 Å.

15. The product of claim 14, wherein the layer of chromium metal has a thickness of about 2000 Å.

16. The product of claim 13, wherein the layer of refractory metal ranges in thickness from about 200 to about 10,000 Å.

17. The product of claim 16, wherein the layer of refractory metal has a thickness of about 200 to about 10,000 Å.

18. The product of claim 17, wherein the layer of refractory metal has a thickness of about 2000 Å.

19. The product of claim 13, wherein the refractory metal comprises tungsten.

20. The product of claim 19, wherein the refractory metal consists essentially of tungsten.

21. The product of claim 13, wherein the layer of one or more metals disposed on the layer of refractory metals is formed from a first layer of metal

deposited by physical vapor deposition, and ranging in thickness from about 200 to about 50,000 Å.

22. The product of claim 13, wherein the layer of one or more metals disposed on the layer of refractory metal has a thickness of at least about 50 microns.

23. The product of claim 22, wherein the thickness is at least about 200 microns.

24. An article comprising:

(a) the brazeable diamond product of claim 13; and

(b) an object comprising a material of the group consisting of a metal, a metallized ceramic, a ceramic, or mixtures thereof, brazed thereto.

25. A method for fabricating a brazeable diamond product, comprising:

(a) depositing a layer of chromium metal onto at least a portion of a diamond component;

(b) depositing onto at least a portion of the layer of chromium metal a layer of a refractory metal selected from the group consisting of tungsten,

molybdenum, tantalum, niobium, a chromium alloy of said refractory metal, and mixtures thereof;

(c) depositing onto at least a portion of the layer refractory metal a layer of an outer metal selected from the group consisting of copper, silver, gold, and mixtures thereof, by contacting the refractory metal with the outer metal at a temperature at or above the melting point of the outer metal.

26. The method of claim 25, wherein at least a portion of the outer metal in contact with the refractory metal is molten.

27. The method of claim 25, wherein the outer metal is copper.

28. The method of claim 25, wherein the depositing of the layer of outer metal comprises applying a solid film, foil, or shim of the outer metal to at least a portion of the surface of the refractory metal, and increasing the temperature of the film, foil, or shim to a temperature at or above the melting temperature of the outer metal for a time sufficient to melt at least a portion of the outer metal.

29. The method of claim 28, wherein the film, foil, or shim of the second metal has a thickness of at least about 50 microns.